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ABSTRACT

This paper suggests that one way of understanding the role of feedback in a classroom situation is to describe the types of feedback which are communicated in a range of settings and to study the effect the feedback seems to have. Systematic descriptions are provided of the feedback communicated by teachers in ESOL classes, by children playing, by a tennis coach and by adults in conversations. In addition to presenting characteristics of feedback that occur in these settings, ways to determine the effect different types of feedback have are discussed. Finally, a framework for examining the feedback used in communications inside of the classroom and in the world is presented together with specific suggestions for expanding the variety of types of feedback most frequently found in teaching settings. (Author/CFM)

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"I can't, I'm talking with the Lady."--

Feedback in Teaching and Non-Teaching Settings

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Abstract

Feedback in Teaching and Non-Teaching Settings

In discussions, teachers often ask questions about feedback similar to these: "How can I say 'no' to my students without discouraging them? Children seem to need a lot of reinforcement--do adults too?" One way to seek answers to such questions is to look to prescriptions in methods books to discover what they suggest about feedback. Another way is to describe what types of feedback are in fact communicated in a range of settings and to study the effect the feedback seems to have. This is the approach taken here. In the presentation, systematic descriptions are shared of the feedback communicated by teachers in ESOL classes, by children playing, by a tennis coach and by adults in conversations. In addition to presenting characteristics of feedback that occur in these settings, ways to determine the effect different types of feedback have are discussed. Finally, a framework for examining the feedback used in communications inside of the classroom and in the world is presented together with specific suggestions for expanding the variety of types of feedback most frequently found in teaching settings.

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Introduction

The premise of this presentation is that systematic study of selected characteristics of feedback communicated in a range of settings, and the effect that these characteristics have, can teach us as much about how to provide feedback as reading others' advice about how we should provide feedback. Thus, the purpose of this presentation is to identify and categorize four selected characteristics of feedback and show how we can study their effects, not to prescribe ways of giving feedback. Once the characteristics are identified, understood clearly and placed in categories, they become variables that can be consciously controlled. By observing the effect these variables have, we can begin to manipulate them so the feedback we provide has the effect we desire.

Identifying Feedback

Before the characteristics are identified, a mutual understanding of the term feedback must be established, however. In dictionaries published twenty years ago, "feedback" was defined only in relationship to the field of electronics. Today, though the term is used in many fields, its early meaning in relationship to electronics is retained. Just as electronic waves that returned to the source of transmission to confirm the accuracy of the transmission or adjust it were labelled "feedback" in early definitions, so communications that are made with the intention of confirming the accuracy of previous communications or of causing adjustments of them can be considered feedback. This definition makes no reference to a classroom because feedback occurs in a range of settings; it is not limited to classrooms. A number of excerpts are

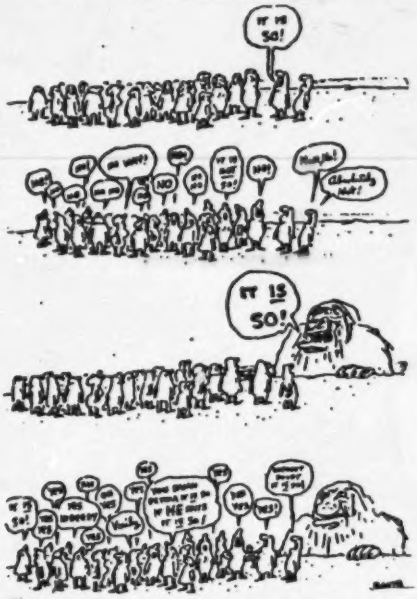
presented below to illustrate this definition. Insights into how we can manipulate characteristics of feedback in our own teaching and see the effect of the manipulation can come from looking at feedback in a range of classrooms.

Manipulating Characteristics of Feedback and Noting Their Effects

Four Characteristics of Feedback

The source

The first characteristic to identify in communications that provide feedback is the source of the communications: Who or what communicates? This characteristic is so obvious that it is often overlooked, but it is important. A recent cartoon in The New Yorker illustrated the effect of this characteristic.



As teachers, we usually think of ourselves or our students as sources of feedback. However, we get feedback from things as well as people, as the underlined communications in these excerpts illustrate.

Excerpt 1: A Dirt Road

1. (A girl is riding a bike with one hand on each handlebar.)
2. (The girl takes her right hand off one handlebar.)
3. (The bike begins to fall to the right.)
4. (The girl shifts her weight to the left based on feedback from the bike.)

Excerpt 2: The Races

1. Well, that was sure a great race, Jim.
2. It sure was.
3. (Jim begins to put his friend's binoculars into the case.)
4. (The binoculars push against the case so they cannot enter.)
5. (Jim begins to take the binoculars out and turn them around based on the feedback from the case.)
6. They go in the other way, Jim.

Excerpt 3: The Cafeteria

1. (A man grasps the black handle on the hot water tap with his right hand and holds a cup under the tap with his left hand and pulls the handle down.)
2. (The tap produces a surge of very hot water that splashes on his hand.)
3. (He starts pulling the handle down slowly, based on the feedback from the water. At the same time his wife makes this comment.)
4. You have to pull it down slowly.

Excerpt 4: The Tennis Court

1. (Serves a ball that the lines on the court show is out of bounds.)
2. Ideally, you want to throw more to the left.
3. (Serves another ball that the lines show is out of bounds.)
4. That was a little too far in front.

5. (Serves another ball that the lines show is in.)

6. Not too bad.

7. (Serves another ball that the lines show is in.)

8. That was good! (Pats the player on the back.)

9. (Serves another ball that the lines show is in but the net shows is a bit high.)

10. (Player grimaces.)

11. That one was too high.

12. Am I bending too much?

13. No. Bending doesn't have much to do with serving. The grip and relaxation are important though.

Excerpt 5: The Piano

1. (Playing a tune.)

2. (Strikes a wrong note. The sound and the position both indicate it is wrong.)

3. (Replays the measure correctly.)

4. (Strikes three wrong notes. The sound and position both indicate the error.)

5. (Tutor hits player on knuckles with a ruler and plays the measure correctly.)

6. (The player replays the measure correctly and continues the piece.)

7. (The player strikes a wrong note. The sound and position indicate the error.)

8. (The player replays the measure correctly.)

9. (As he does so, the tutor raises the ruler.)

10. (The player quickly takes his hands from the keyboard and puts them on his lap.)

In all these excerpts except the first, a person playing the role of the teacher augments the feedback provided by things. Whether the feedback

provided by these comments aided the performances or whether the performers would have completed their tasks as well without them is impossible to say because we cannot alter the sources systematically and compare the effects they each have. The excerpts are frozen in print and cannot be manipulated. Of course, we each have our preferences. Some of us get nervous when we are doing something on our own and another person comments about what we already know from the feedback we are getting from the material we are working with. We may say "I know" after an onlooker makes a comment such as "It goes in the other way" or "You have to pull it down more slowly" or "That was a little too far in front" as we are altering our actions based on feedback we have already received from materials we are using. But we cannot just base what we do in our classrooms on our personal preferences. We need to base what we do on evidence. To compare the effect of feedback from a teacher, from a student, from a student playing the role of a teacher, from materials, or from a combination of these variables, we must manipulate the variables and note their effects.

Here are a few suggestions for manipulating the variable we are calling the source of feedback. From a distance, observe individual students doing puzzles, correcting their work, reading silently on their own, answering questions in a workbook with a key in it, or other activities in which materials provide feedback. Count the number of times they seem to make errors and false starts, the number of times they adjust their work based on feedback from the pieces of the puzzle or the printed words in the materials, and count the number of times they give feedback to themselves with comments such as "Oh, darn" or "Got it" or with gestures such as the snapping of fingers or a smile or a grimace. Then, stand next to individual students and peer over their shoulders as they perform the same activities.

Make comments such as "That piece is too big; your questions are coming along fine; you didn't number all the answers." Act the same way the person did at the races when Jim was putting the binoculars in the case in Excerpt 2 and the same way the wife did when her husband opened the tap too quickly in the cafeteria in Excerpt 3. See if the number of errors, false starts, self-adjustments, and self-feedback are greater or fewer when you are close than when you stood at a distance and allowed the materials themselves to provide the feedback. Finally, ask students to work in teams of two, assigning one to the role of teacher. As the student playing the role of a teacher provides feedback, note the same effects you did for the other conditions and compare them.

The effects of such comparisons may vary from activity to activity and from student to student. A piece of jigsaw puzzle that does not fit may provide clearer feedback than a printed word that is misread. Some students may feel the need for a teacher to be close, making comments. Others may reject a teacher's comments but welcome those of their peers; still others will resent peer feedback. The point is not that one can prove that one source is always better than another. The point is that looking systematically at the effects of varying the sources of feedback will have at least two outcomes. First, you will begin to see which sources different students get most from. Second, you will be able to manipulate the sources. Unless the sources are varied, you cannot see what the effect of each is, and you must base your feedback on whim, habit or prescription rather than on its observed effects. It is easy to forget that sources other than the teacher can provide feedback. Yet if we keep in mind that learners on their own do balance bikes, get binoculars into cases, serve themselves drinks from taps that produce surging water, and alter their tennis game and piano

playing by making use of feedback from sources other than a teacher, we may be more willing to step out of the role of sole provider of feedback. If we consider that in addition to the materials our students work with, each individual student is also a separate source of feedback, it means that in addition to the many sources of feedback provided by the materials we use, there are as many potential sources of feedback in our classes as there are students.

The medium

The fact that materials can be the source of feedback reminds us that mediums other than our own speech can communicate feedback. If you go back and scan the excerpts and make a list of the types of mediums other than speech that provided feedback with examples of each, you will have a list that looks something like this one.

Types of Mediums and Examples of Each
(from Excerpts)

objects: 1. (Leaning bike.) 2. (Binocular case.) 3. (Hot water.)

noise: 5. (Wrong note.)

gesture: 4. (Player grimaces.)

gesture & object: 5. (Raises ruler.)

visuals: 4. (Lines on the tennis court.)

touching: 4. (Pats player on back.)

In our daily life, we receive feedback from many other mediums as well. While driving, others honk at us and may shout as well, telling us with words we are in the wrong lane and with the tone of their voice that we are stupid, or at least lousy drivers. Though we may observe babies more than

adults crying or laughing to give feedback to those caring for them or playing with them, we all provide others with feedback through our emotions. Often, the mediums of touch and distance accompany the mediums of emotion. A touch sometimes quiets crying and moving closer or farther from a person can liven laughter of both babies and adults.

To be able to manipulate the large number of specific mediums available to us for providing feedback, the mediums need to be categorized. In the case of two types of mediums, the popular labels are sufficient. Thus, words and individual letters or sounds, whether written, transcribed in phonetic script or spoken, as well as intonation, stress and marks of punctuation, can be labelled linguistic. And the label para-linguistic can be applied to body language such as gestures, distance, touch and movement as well as tone of voice and emotions such as crying or laughing. However, the label usually used to classify pictures, objects, diagrams, sketches and music or noise, audio visual aids, is not adequate. I do not consider these mediums as merely aids, but rather integral parts of communication that are part of a total system of mediums we use to communicate. To show that this category of mediums is a part of the same grouping as linguistic and para-linguistic mediums, I label them non-linguistic. Since feedback can also be communicated by doing nothing, a fourth major category is needed; I label it silence, and it means the absence of linguistic, non-linguistic or para-linguistic mediums.

Within the three linguistic categories, the mediums can be communicated so that they appeal primarily to the ear, to the eyes or to neither of these. Those mediums such as spoken words, noise, music, tone of voice or crying that appeal to the ears are placed in the sub-category aural. Those that appeal to the eyes such as printed words, objects and pictures

and sketches or gestures are placed in the sub-category visual. Those that we can still perceive even if our eyes are covered and our ears plugged such as Braille, temperature and smell or distance and touch, are labelled other.

Rearranging the mediums observed in the excerpts and a few others from our own experience in these categories, and thinking of them as items in the second column of a two-slot substitution table with the source filling the first column, we have Table 1, below. Table 1 is like a substitution table in that any item in Column 1 can combine with any item in Column 2. Table 1 is different from a substitution table in that any item in each column can also combine with any other item in the same column.

(See Table 1 on page 10.)

Without systematic observation of the effects of different mediums, one cannot argue that some mediums should always be used and some avoided. The prescription that students should only hear words and never see them written was made by those who did not systematically study the effects of different mediums in a range of settings. Go to ticket windows at large railroad stations and observe how many times most passengers repeat their destinations to the clerks. Then, go up to the same clerks with your destination written on a small card. Compare the time it takes you to get your ticket with others who depend only on spoken words--linguistic aural mediums in this categorization. One factor that interferes with the oral requests is the noise in the station--non-linguistic aural mediums. But to some non-native speakers, sounds that are linguistic to native speakers are simply noise and belong in the category non-linguistic aural.

When I go to a hotel where my reservation has been made by someone

Table 1 Categories of Source and Mediums with Examples of Mediums

Column 1 Source What or who communicates?	Column 2 Medium What medium is used to communicate?	(Examples of Categories of Mediums)
	linguistic	
teacher	aural	(spoken words, sounds, stress, intonation)
	visual	(written or transcribed words, punctuation)
	other	(Braille, words in color)
	non-linguistic	
student	aural	(music, clapping, whistle, bell, noise)
	visual	(objects, pictures, sketches, diagrams)
	other	(smell, temperature)
	para-linguistic	
student in role of teacher	aural	(tone of voice, emotion, volume of voice)
	visual	(gestures, smiling, body movements)
	other	(distance, touch)
other		
	silence	

Solid lines indicate major categories. Broken lines indicate sub-categories.

else, this is the sequence of communications that usually occurs.

Clerk: Can I help you?

Customer: Yes, thank you. Do you have a reservation for Fanselow?

Clerk: Sanselow? Let me check. I'm sorry; we have nothing listed.

Customer: Fanselow. (With emphasis on the first sound.)

Clerk: (Checks again still under "S") Sorry, not listed.

Customer: (Writes an "F" on a card.)

Clerk: Oh, Fanselow. (Checks under the "F's.") Room 304.

I might also say "That's 'F' as in 'Fred' not 'S' as in 'Sam.'" This is more effective than stressing the initial sound; I stress the "F" only to keep reminding myself of how ineffective such a use of the medium of stress is! But the point is not that clerks do not understand English or that I am unclear. The point is that using only the same medium the clerk is having difficulty with is not usually as effective as varying the mediums by using a different sub-category of the linguistic mediums, switching from aural to visual. Even switching from one area of linguistic aural--from speech to speech plus stress--does not have the same impact as switching from linguistic aural to linguistic visual. Giving a word that begins with the letter keeps the mediums constant but changes another variable of feedback which is presented below, the content. When I simply repeat the letter I am staying within the same sub-category of language; when I give an example of the sound by stating a word I combine two sub-categories of the language, the meaning system and the sound system.

To start discovering the extent to which my observations of the effects of different mediums outside of classrooms apply to your classroom, try these manipulations of mediums. After errors in oral work, provide the model only in speech--linguistic aural--for a number of class periods, and

see how many tries are needed by students to produce the correct responses. Then, taking a cue from observations of customers and clerks in the world outside of the classroom, for a number of class periods, provide the model after errors only in writing--linguistic visual--and see how many tries are needed by students to produce the correct responses. Then, try doing nothing--communicating with the medium of silence--and see the effect. Do more students chime in with the correct models to augment your feedback when you provide the answer to the erring student in speech--linguistic aural--in writing on the blackboard--linguistic visual--or when you do not present it at all--silence? If your criteria for effectiveness include keeping other students from giving the answers and getting the student with the error to give the correct form with the fewest number of tries, you will select one medium. If your criteria are different, you will select a different medium perhaps.

You need not limit your manipulation and observation of the effect of different mediums to feedback you provide to the students' linguistic performances. Performances of a procedural type can be provided with feedback communicated in different mediums as well. After your students clean up their desks, use words such as "Thank you, good job" for a few days. Then, switch from linguistic aural mediums to para-linguistic other mediums; hug them or shake their hands or pat them on the shoulder. What effect does the use of each medium have on the speed with which they clean up? Which mediums are used when the cleanup seems particularly well done? Once you establish your criteria for success, you can see the degree to which different mediums contribute to the achievement of success.

When students are noisy, shout at them; that is, combine the linguistic

aural medium of speech and the para-linguistic aural medium of emotion, shown by the tone of voice. At other times, communicate your feedback by gently ringing a bell, thus using a non-linguistic aural medium. Recall the effect a gentle honking of a horn has on you in contrast to a loud, vigorous honking! Or, try the non-linguistic aural medium of music: it puts babies to sleep! You could also try para-linguistic other, hitting, together with non-linguistic visual, a paddle. The Supreme Court ruled in May of 1977 that teachers can use paddles on students for misbehavior. Though I doubt that the judges studied the effects different mediums had in providing feedback, they did by the ruling allow you to manipulate the mediums involved in paddling. If you are inclined differently, try silence and still another time try a para-linguistic other medium such as distance; move closer to the students making the most noise. As always, in a spirit of inquiry, see what effect each has.

As you begin to manipulate the categories and sub-categories of mediums and observe the effects they have, you can combine them with different items in Column 1 of the substitution table, the source of the feedback. Put a student in charge of cleanup behavior. See the effect a gentle ringing of the bell has when a student rings it. In many countries where English is taught, student prefects are the source of <u>all</u> feedback relating to procedure and social behavior in the classroom.

The use

Important as the source and medium of the feedback are, looking only at these two characteristics is not enough. The way the mediums are used to communicate is also important. After an oral error you can shake your head sideways, thus using a gesture to indicate that the response is incorrect.

Or, you can use each finger in one hand to indicate each word in the sentence and then point to the finger that represents the word with the error, thus locating the error but not explicitly indicating the performance is incorrect. The label for these uses of a medium is characterize. Performances can be characterized in two ways, by evaluating explicitly, as in the first instance, or by communicating information about where the error is as in the second instance. Here are some other examples of mediums used to characterize performances by evaluating them. These are all from the excerpts: 2. "Well, that was a great race, Jim." 4. "Not too bad; that was good!" (Pats player on back; player grimaces.) 5. (Tutor hits player on knuckles with a ruler.) Of course, as these examples show, evaluations may be positive or negative.

Here are some examples of mediums used to characterize performances by providing information about performances. They are also from the excerpts: 2. "They go in the other way, Jim." 3. "You have to pull it down slower." 4. "Ideally, you want to throw more to the left; that was a little too far in front; that one was too high." Using mediums to indicate items are the same or different from what is expected, using labels such as noun, verb or voiced sound and indicating what the correct answer should be by giving the first or last letter of it or providing the number of syllables in it are other ways we can characterize performances by providing information.

Another way mediums can be used in communicating feedback is to provide information directly or give the answer. Here are some examples of this use of mediums from the excerpts: 1. (The bike begins to fall to the right.) 3. (The tap produces a surge of very hot water.) 4. (Lines on the tennis court are used to determine whether the ball is in or out.) 5. (Wrong note struck by the player and correct notes played by the piano teacher.) My writing "F" on a card for the hotel clerk is another example of this use.

In all of these examples, performances are not characterized, but answers are given or direct information is presented; mediums present themselves so to speak, and the performer has to see himself the degree to which the mediums presented and his are the same. Thus, we say mediums in this category are used to present content.

When the tennis player in Excerpt 4 asks, "Am I bending too much?", the coach first says "No." He characterizes the information in the question by evaluating it, indicating with speech that the hypothesis presented about bending is not correct. Then, he gives an explanation: "Bending doesn't have much to do with serving. The grip and relaxation are important though." When mediums are used to relate facts or ideas in this way or state rules or generalizations, they are put in the category of use called relate.

When mediums are not used in any of these three major ways--to characterize, present or relate--but the performer is simply given another chance to respond, that is, when there is an absence of any active use of mediums, and we only observe one person waiting for another to respond again, we label the waiting attend.

The content

The content of the feedback is also important. When I write an "F" on a card or say "F" as in "Fred" not "S" as in "Sam" to hotel clerks, I am providing linguistic information. When feedback contains information about the meaning, pronunciation, grammar, usage, function or mechanics of language, the content of the feedback is labelled language. If I ask a student how many sisters he has to practice the numbers and he replies "Four," and I say "Very good," I am commenting on the linguistic content of the response and so the feedback content would be labelled language.

If I ask a student how many sisters he has because I want to know and he replies "Four," and I say "Very good," I am commenting on a personal aspect of the student's life and so the feedback content would be labelled life. In the tennis lesson, some comments were personal: "Not too bad; that was good!" The content of these would be labelled life. Likewise, in the piano lesson, when the tutor hit the knuckles of the player after wrong notes had been played, the content of the feedback would be labelled life. Though we cannot know for sure that the personal feelings of either the tutor or player were involved in the knuckle episode, we would still code the content of the feedback as life.

The comments, "The binoculars go in the other way," or "You have to pull it down more slowly," are simply procedural comments, which, together with feedback related to classroom administrative routine or classroom behavior are put in the category called procedure. When subject matter other than language, such as history, math, science and other school subjects, is communicated and feedback refers to these areas, the content of the feedback is subject matter. In the tennis lesson, as in other physical educaion classes, comments such as, "That was a little too far in front," and "That one was too high," would be coded in the category subject matter.

Under each major category--language, life, procedure, subject matter--sub-categories can be used. For example, if the feedback concerns pronunciation rather than meaning or grammar under the category language, then these labels can be used to specify these particular areas. Under procedure, comments about how to open and close books and care for them would be in a different sub-category from comments about the misbehavior of students. On the other hand, if it is not possible to determine either a sub-category

or a major category, either because the feedback is ambiguous or because the feedback refers to more than one major category, the label unclassified is used.

Combinations of the Four Characteristics

Our substitution table now has four columns, one for each characteristic of feedback that has been presented: 1. the source; 2. the medium used; 3. the way the medium is used; 4. the content communicated.

(See Table 2 on page 18.)

Though the number of variables in each column in Table 2 is very small, never more than five major categories, the number of combinations of the items in each column with items in the other columns is extremely large. One is reminded of what the Italians are able to do with the basics of their cooking: pasta, tomatoes, cheese, meat and a few spices. Looking at pizza, lasagne, ravioli, and spaghetti, which appear so different, it is easy to forget that they all represent simply different combinations of the same basic elements. Though now there are recipes available to produce pizza and spaghetti, they were not always available, simply being handed down from on high. They had to be developed by combining the basic elements in different ways and observing the results. To develop "recipes" for feedback, the same process is necessary. The basic elements have to be combined in different ways and the results they produce have to be studied.

Selecting and Coding Communications That Provide Feedback

One first step in the development of a recipe, once the ingredients have been identified, is to measure the amount of each ingredient now being

Table 2 Four Characteristics of Feedback and Their Categories

Column 1 Source	Column 2 Medium	Column 3 Use	Column 4 Content
	linguistic		language
teacher	aural		
	visual	attend	
	other		life
	non-linguistic		
student	aural	characterize	
	visual	evaluate +/-	procedure
	other	inform about	
	para-linguistic		subject matter
student in role of teacher	aural	present	
	visual		
	other		
other		relate	
	silence		unclassified

Solid lines indicate major categories. Broken lines indicate sub-categories.

used. Audio or videotapes or a friend interested in observing can provide aid in this type of measurement. Though the audio recording is obviously best for aural mediums such as words, noise or tone of voice, the sound of the chalk on the blackboard as we write can remind us that we used linguistic visual mediums even though the audio recording cannot pick up the words on the board themselves. Comments such as "Look at this," on an audio tape signal our use of non-linguistic visual mediums such as pictures or objects. Gestures, we can ask a student or a friend to note if a video recorder is not available.

If we assume that teaching is a patterned behavior, brief excerpts from lessons will provide reasonably accurate samples of these patterns. Though tapes of entire lessons might provide a slightly more accurate measurement of our patterns of feedback, the time needed to describe entire lessons is sometimes more than we have available. Rather than being overwhelmed with the task of describing entire lessons, it is easier to take some samples for observation. After all, a few tubes of blood rather than eight pints can be used to measure certain variables in our blood, so a few excerpts of communications that provide feedback can be used in a similar way.

Coding Communications That Provide Feedback

If you find in your initial sampling that one way you provide feedback a good part of the time is to say the sample you asked the student to say both after he says it correctly and incorrectly and when he cannot say it at all, the coding of this feedback would look like this:

Source	Medium	Use	Content
teacher	linguistic aural	present	unclassified

If you find that students too provide the correct answer both when the student being called on does not respond and after correct and incorrect responses, the coding will be the same as yours except for one substitution in the first column.

student	linguistic aural	present	unclassified

If you find that another way you provide feedback is to say "Very good" or smile after students responses, the feedback would be coded like this:

teacher	linguistic aural	characterize evaluate +	unclassified
	or		
	para-linguistic visual	characterize evaluate +	

If you provide the response and say "Very good" after the performances, then of course the pattern would simply be a combination of these and look like this:

		present	
teacher	linguistic aural	and	unclassified
		characterize evaluate +	

The reason the content is coded unclassified in these examples rather than language is because it is so difficult to determine the content. If these types of feedback had followed a student response such as "I extremely happy," one could not be sure if the teacher's saying "I'm extremely happy" meant that the teacher too was happy, in which case the content would be coded as life, or whether in spite of the error in the first word, the pronunciation, meaning and grammar of the rest of the sentence were being commented on, in which case the content would be coded language.

Similarly, if the teacher followed "I extremely happy" with "Very good," it would be hard to know what was very good. By saying "Very good," the teacher may be indicating he is pleased that the student is happy and is indicating that he is pleased that the student is pleased. In this case, the content of the feedback would be life. Or the teacher may mean that in spite of the error in the first word, the rest of the sentence is fine, thus evaluating the linguistic aspects of the sentence. In this case, the content of the feedback would be coded language. Or finally, if the student response was from a student who rarely responds, the teacher may simply want to show his delight that the student answered at all, in which case the content of the feedback would be procedure; the teacher simply wanted to commend the fact that the student responded!

Here is still another way the variables could be combined in providing feedback to the response "I extremely happy." The teacher says, a) "I'm extremely happy too," and b) "because I only have two more periods," or a) "I'm extremely happy too," and b) "because I just got a raise." Assuming these explanations were true, the coding of these communications would look like this:

Source	Medium	Use	Content
		a. present	
teacher	linguistic aural	+	life
		b. relate	

Here, the teacher not only gave the answer again, but added an explanation of why he was happy. He used speech in two ways.

Had the teacher said, "I extremely happy?" that is, repeated the student response with rising intonation, the coding would look like this:

teacher	Linguistic aural (spoken words)	present	unclassified
	Linguistic aural (intonation)	present	procedure

This means that the intonation is used to say that the student should try again; that is, the intonation sets a task; setting tasks is a procedural type of communication. The reason the spoken words are coded as unclassified is that there is no explicit indication of what area of content is being worked on. One might argue that repeating a response with rising intonation should be coded with content of language during language lessons. And further, that since rising intonation is often used when there is an error, the use to code is evaluate. While it is true that rising intonation can imply that a previous response is incorrect, it can also mean simply, "Please repeat that again, I didn't hear you," or, "I heard you and I'm shocked by what you said." No doubt these distinctions are signalled by subtle differences in the heights of the intonation. But we cannot assume that non-native speakers of English can tell what our different patterns of rising intonation signal.

Look at these communications from a language class.

student: I watch my hair last night.

teacher: Watch?

student: Oh, shampoo.

teacher: Shampoo?

student: (With his hands, he massages his head as if he is washing his head.)

teacher: Last night?

student: Yes.

And look at these communications from a math class in a bilingual program

with Japanese students.

teacher: 2 plus 3

student: Faibu.

teacher: Faibu?

student: Hai.

teacher: Who knows the right answer?

All of these uses of intonation would be coded with the use present and the content of procedure, because the function they seemed to serve was to set a task for the students. The teachers may have intended to indicate that the student responses were incorrect. But the students seemed not to interpret the intention in this way. Obviously, different observers might code the use and content differently. One experiment to perform is to see whether feedback that is difficult to agree on the coding of has a different effect than feedback that is easy to agree on the coding of. One characteristic of easy-to-code feedback is that it is usually explicit.

Here is how two other teachers provided feedback to the student responses in the last two examples.

Example 1

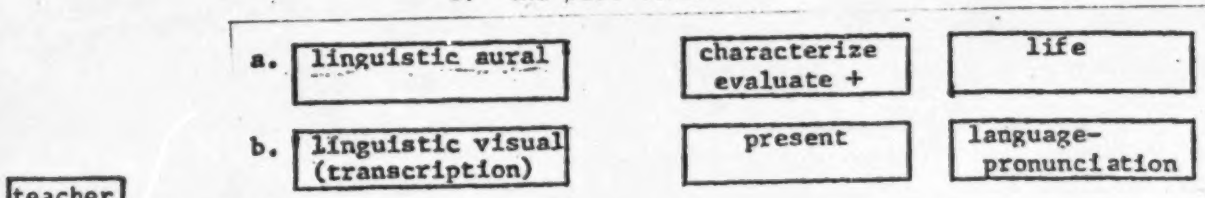
student: I watch my hair last night.

teacher: a. Your hair looks great.

b. Writes /st/ on the blackboard and at the same time says:

c. I'd like to hear the sentence again with

d. the past tense.



c.	linguistic aural	present	procedure
d.	linguistic aural	characterize inform about	language--grammar

Example 2

teacher: 2 plus 3

student: Faibu.

teacher: a. Right answer, but

b. pronounce it

c. as one syllable.

d. (Writes this on the blackboard: /fiv/.)

	a.	linguistic aural	characterize evaluate +	subject matter
	b.	linguistic aural	present	procedure
teacher	c.	linguistic aural	characterize inform about	language--pronunciation
	d.	linguistic visual	present	language--pronunciation

Whether this piling up of uses and areas of content to form many messages is more effective than simply repeating the student's response with rising intonation is what you can examine! The examples were presented only to contrast messages that were explicit and therefore could be coded with sub-categories of language with others that were less explicit and could not be coded with sub-categories of language.

Some teachers feel they are exploring completely new teaching methods by adopting some behaviors from teachers from various schools such as the Silent Way. Some teachers who see a few Silent Way classes establish the convention they observe of using their fingers to represent words in sentences. When an error is made, the teacher holds up his left hand to represent the sentence and with his right hand pulls down one finger at a

time as the student re-states the sentence until the error is reached. At this point, the finger representing the incorrect word is moved back and forth with the right hand. Using the categories we have established, the only difference between this type of feedback and the traditional use of stress to indicate the place of the error or in the circling of an error in written work would be the substitution of a gesture, a para-linguistic visual medium, for stress, a linguistic aural medium and a circle, a non-linguistic visual medium.

Investigating Effectiveness

Which of these combinations of characteristics in these examples is the best to provide feedback? Which mushrooms are poisonous? The first people to classify mushrooms no doubt were those who had the courage to try different samples, describe the distinctive features of those they tried and observe their effects. The same steps must be followed in discovering feedback that is beneficial rather than harmful. The first step is to take some samples and describe the distinctive features of them. After the initial description, the next step is to change one variable and see the extent to which the effects are altered. One may ask students to provide feedback all the time for example. If they simply mimic the way you have provided feedback, the results may be identical, and then you will have eliminated this variable as being a crucial one. Another simple way to test the effect of your present feedback is to eliminate it completely. React to all performances with the medium of silence, the use attend and content that is unclassified. If the effects are no different, then you must begin to question the effect of the feedback you have been providing.

Coding and tallying of all characteristics may be too burdensome in

the beginning, so you might find it more useful to tally only one characteristic. And when you code, you of course do not have to box in the characteristics as I do. I use the boxes to try to make the examples clearer; they are not needed for coding. Anyway, you may simply be interested in ticking off each instance of feedback that communicates one of the major categories of content, for example. When some beginning teachers do this they find that more than half of their feedback communicates procedure. And of the fifty percent of communications that contain procedure, one hundred percent of them contain communications that are addressed to classroom misbehavior. One way to attack this problem is to tell the teacher that he cannot control a class well, and that he'd better soon learn, or that he should be stricter. Another way is to suggest that he communicate some feedback with content of language or life. As feedback about the language tasks the students perform or about their personal feelings are made, those containing content of procedure will of necessity decrease. Here, the tally provides a diagnosis and at the same time implies a treatment. If one is teaching language or another subject such as history, it stands to reason that student responses in the area being taught need comment, and if the students are communicating messages about the language or subject matter being studied they cannot communicate messages containing the content of procedure, especially classroom misbehavior.

Though tallies sometimes not only diagnose but imply treatment whose effects can be seen in another tally of the same characteristic, as in the case of the "discipline problems" cited above, other effects need to be observed in many cases. Thus, the effects of communications that provide feedback with unclassified content can only be observed if you observe other

factors such as the number of trials students need to produce correct responses when feedback is unclassified in contrast to when it is classified in a sub-category of the content of language. And likewise, it is not enough to compare the tallies of the most frequent and least frequent uses in the feedback you provide. You need to develop criteria that indicate what you consider to be successful, and then see whether the uses that are most frequent or least frequent provide the effects you want. Some methods books say that saying "Very good," and repeating the pattern the student says, whether the response contained an error or not, is the most effective type of feedback. But unless the results of this type of feedback are compared with others, or with no feedback, it is impossible to say that it is effective.

Practice in Coding Communications that Provide Feedback

For practice in mastering the categories, I invite you to code the lines in the excerpts below. After you code them, compare your responses--get feedback in print--from the keys below the excerpts.

Excerpt 1: Cartoons from The New Yorker

1a.

i. You should wear a little jewelry with your overalls, sweetheart,

ii. so people don't get the wrong idea.

Source		Medium	Use	Content
	i.			
	ii.			

Key to 1a.

Source		Medium	Use	Content
Teacher	i.	linguistic aural	charac. eval.+	life
	ii.	linguistic aural	relate	life

1b.

i. That was a most interesting and thought-provoking comment!

ii. Now, Tommy, will you please leave the table and go to your room.

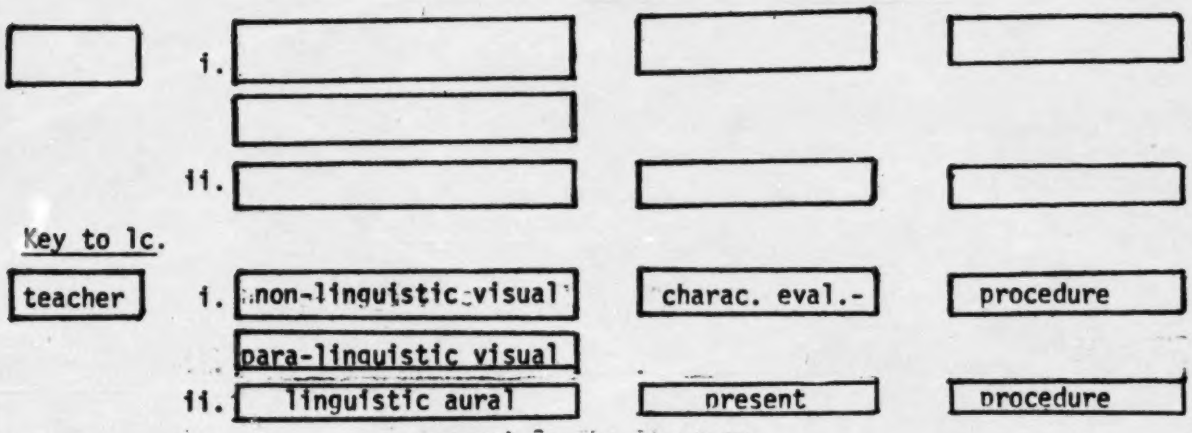
	i.			
	ii.			

Key to 1b.

teacher	i.	linguistic aural	charac. eval.-	life
		para-linguistic aural (tone of voice)		
	ii.	linguistic aural	present	procedure

1c.

1. ii. Thank you for not smoking.

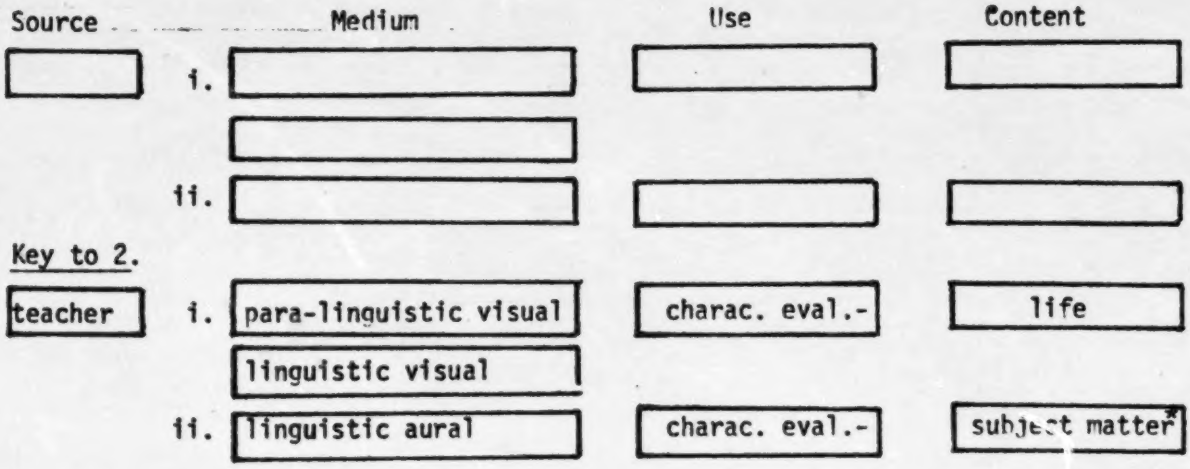


Excerpt 2: "A big one."

Two children are playing together. The conversation centers around a party one of the children had just gone to and the type of cake that was served. After saying "a big cake" was served, the other child asks "What kind of a big one?" and "What color were it?" His friend answers "Green." Then, this feedback follows:

i. He waves his hand disdainfully and says, Aw, you dumb.

ii. They ain't no green cakes.



Excerpt 3: "I can't, I'm talking with the Lady."

A father and his daughter are in the park. She is climbing a tree and he, some distance away from her, is standing with their dog talking to a lady. The daughter calls out for her father to look at her as she gets high in the tree. He says that he can't look because he is talking with the lady. She then provides the feedback in line i, and he provides the feedback in line ii.

i. The daughter begins to sob.

ii. The father, glancing towards her, says: You're a real tomboy.

*The category subject matter is used rather than life because the child is acting as if types of cakes, their sizes and colors, are a subject of study.

	i.			
	ii.			

Key to 3.

teacher*	i.	para-linguistic aural	present	life
teacher*	ii.	linguistic aural	charac. inform	life

Other Characteristics of Feedback

Obviously, there are other characteristics of feedback in addition to the four presented here. For example, the target of the communication may be important to note as well as the source. Some students may receive a great deal of feedback from others and some may be ignored. We may consistently provide positive evaluations to the good students and withhold them from the students who are poor. Sometimes, an individual is the target of his own feedback as when one says "Damn it" or grimaces after either a correct or incorrect performance. The feedback these students are providing themselves with may interfere with their ability to produce better performances. In addition, much feedback is directed towards us as teachers in our classes, but because we only think of ourselves as the source of feedback and never the target, we fail to perceive the communications the students direct to us.

The language that the mediums are communicated in too might be an important variable. I remember in Somalia when I raised my eyebrows vigorously a la Groucho marx after a student responded correctly. In my language, this gesture simply meant "Very good," and thus I intended to characterize the student's response by evaluating it positively with a gesture. However, the gesture in Somali meant that I was interested in having an affair with the student! To the student, the gesture had content of life. If a teacher

*The source of both communications is coded teacher because they are both trying to show each other something.

communicated all the negative evaluations in one language and positive evaluations in another I would imagine that this alteration would have some effect, especially if the target language were used for the positive evaluations and the students' first language for negative evaluations.

Another variable that may be important to study is whether the feedback is asked for by the student or just provided by the teacher. In Excerpt 4, The Tennis Court, the player asked his coach whether bending had anything to do with serving. To the player, at that moment, this was the feedback he needed. Telling him about the location of the ball, as the coach had been doing, might have had little effect because the teacher was simply reacting to what he thought the needs of his student were. But our perception of the needs of our students may not be as vital as what they consider their needs to be. Comparing the effects of feedback we provide that is requested with that provided without requests might suggest that much of what we provide as feedback is more satisfying to us than to our students.

Of course, some effects cannot easily be observed. The short term effect of using print to supply answers may produce more correct responses with fewer trials. But are the correct responses remembered? Is pronunciation interfered with? If students are asked to figure out their own answers without answers from the teacher, they may require more trials, but they may retain the material longer.

Finally, the extent to which what we provide in feedback is simply noise has to be studied. After an error such as the one in our earlier example in which the teacher wrote phonetic letters on the blackboard, said he liked the student's hair and told the student to change the sentence to the past tense, we have to wonder how much of this feedback had effect. Perhaps the student had simply mis-stated, as native speakers often do.

All this feedback might have caused wonder rather than clarification.

In spite of these types of questions, I still would argue that discussing feedback in this way, rather than in terms of reinforcement, for example, is more useful. Discussing feedback in some of the normal ways such as reinforcement fails to take into account some of the variables presented here. If we think of reinforcement as giving praise we still must investigate the effect of the way the praise was provided. Was candy given? Did the teacher shake the students? Did he say "Very good"? Were these communications directed to what the student said or to the fact that he said anything at all?

Talking in general terms such as reinforcement not only blinds us to the specific things we and our students and our materials do, but it also can make us say things we do not do. If asked whether we provide reinforcement, what teacher would answer in the negative? Even if we were not sure whether we did or did not provide reinforcement, the word suggests that we should. Labels such as reinforcement have two other disadvantages. First, they tend to be very general, and even if operationally defined, do not account for some of the characteristics of feedback that may be important such as medium, source or content. Second, they contain built-in judgments and therefore are difficult to use descriptively.

In addition to using general, judgmental terms such as "reinforcement," as teachers we frequently make the comment "It worked." One problem with this statement is that it is difficult to identify the referent for "It" with much degree of specificity. In terms of some of the characteristics of feedback, I hope the characteristics presented here will make it possible for you to share more specific descriptions of the feedback you provide than you have been able to in the past. In addition, I hope you will be better

able to experiment with expanding the range of feedback you frequently use, basing your experiments primarily on descriptions of characteristics of feedback and their effects in a range of teaching and non-teaching settings rather than on the prescriptions of others.

Annotated Bibliography

Allwright, Richard L. "Problems in the Study of Teachers' Treatment of Learner Error" in On TESOL '75 edited by Marina K. Burt and Heidi C. Dulay. Washington, D.C.: TESOL, 1975.

This article indicates some of the methodological complexity involved in the study of the language teacher's treatment of error as well as providing suggestions for analysis of the language teacher's treatment of error.

Annett, John. Feedback and Human Behavior. Baltimore, Maryland: Penguin Books, 1969.

This book provides a review of research in the fields of psychology as well as information processing indicating what these fields of research have contributed to our understanding of the effects of the different types of feedback.

Cathcart, Ruth L. and Judy E.W.B. Olsen. "Teachers' and Students' Preferences for Correction of Classroom Conversation Errors" in On TESOL '76 edited by John F. Fanselow and Ruth H. Crymes. Washington, D.C.: TESOL, 1976.

The authors report the results of questionnaires they administered to a number of students and their teachers in which they asked them which error treatments they preferred. One of their many findings is that students like feedback such as "Don't say go; say went" but teachers did not. The questionnaires themselves contain a range of feedback types.

Chaudron, Craig. "A Descriptive Model of Discourse in the Corrective Treatment of Learners' Errors." Toronto: The Ontario Institute for Studies in Education, 1976. (Unpublished)

This paper contains both a model that can be used and the results of its application to a number of teachers. The model of course is for describing feedback.

Fanselow, John F. "The Treatment of Error in Oral Work." Presentation made at the Eighth TESOL Convention, Denver 1974. Forthcoming in Foreign Language Annals, October, 1977.

This report presents the results of a description of the feedback of second language teachers. The most frequent type of feedback was the presentation of the correct answer by the teacher. In addition to the description, a number of suggestions are made for providing a wider range of feedback after students make errors.

Gentile, A.M. "A Working Model of Skill Acquisition with Application to Teaching." Quest, 17, 1972.

This article contains a framework for developing feedback for physical education teachers. The types of problems students have in learning patterns of physical behavior seem very similar to those they have in learning language behavior according to the feedback patterns discussed here.

Naiman, N., M. Frölich, and H.H. Stern. The Good Language Learner. Toronto: The Ontario Institute for Studies in Education, 1975.

Though the emphasis of the study was on the learner, the report contains descriptions of the behaviors of teachers in their classrooms, including their use of feedback.

Nelson, Katherine. Structure and Strategy in Learning to Talk. Monographs of the Society for Research in Child Development. Chicago: The University of Chicago Press, 1973, Volume 38, Numbers 1 and 2.

The feedback mothers gave their children was studied and the effects of each kind observed. After presenting a large amount of data, the report concludes that "An operant conditioning model of language learning will thus find little support in these data." (87)

Rowe, Mary Budd. "Science, Silence and Sanctions." Science and Children, March, 1969.

The author presents evidence of experiments she had teachers perform in which they extended the amount of time they waited before providing their students with feedback. She found that answers were more complex and longer when teachers' feedback consisted simply of waiting--using silence to attend to their students in the terms introduced in this presentation.

Strawn, Dwight J. "Teacher Feedback to Students in Selected English as a Second Language Classes." Unpublished doctoral dissertation, Teachers College, Columbia University, 1977.

In addition to containing a framework for describing teachers' feedback and the results of descriptions made with the instrument, this study contains an extremely thorough review of research on feedback including the prescriptions made by those who write second language methods books, a large number of experiments on the effect of feedback in learning in general and a very complete description of the experiments that have been done to test the effects of different types of feedback in second language learning.

Zahorik, John A. "Classroom Feedback Behavior of Teachers." Journal of Educational Research 62, December 1968,

This descriptive study was limited to verbal feedback. The author found that of the 175 different types of feedback he identified, teachers tended to use only 16 of the types almost all of the time; most of the 16 provided very little information.

Zahorik, John A. "Pupils' Perceptions of Teachers' Verbal Feedback." Elementary School Journal 71, November 1970.

This study reported that the sixteen types of feedback the author had reported earlier (1968) were not considered very helpful by the pupils they were used with. The categorization the author presents, as well as his suggestions for varying feedback are useful for second language teachers even though he developed them for elementary school teachers to use in the regular curriculum with native speakers of English.